

**Incorporating Bicycle Level of Traffic Stress into MPO Performance Based Planning
FHWA Measuring Multimodal Connectivity Pilot Grant Program
Partnering for Performance New Hampshire**

DRAFT OUTLINE – 7/27/18

ABSTRACT

PROPOSAL BODY

- I. Description of the Proposed Effort.** *This section should include the purpose/goal and a detailed description of the effort to be funded.*

A. Project Goal & Overview

The goal of the proposed pilot project is to improve bicycle network planning for New Hampshire's Metropolitan Planning Organizations (MPOs) through development of a shared statewide model for evaluating Bicycle Level of Traffic Stress (LTS); development of a shared transportation system performance metric based on LTS to be used by the four MPOs and potentially rural RPCs; and incorporation of that metric in prioritizing projects for inclusion in MPO Long Range Transportation Plans.

Bulleted Scope Summary

- Use PSU model to develop baseline LTS data five MPO/RPC regions
- Collect regional data and refine model - iterative process involving MPO staff and public participation
- Define shared LTS-based performance metric through PPNH collaboration
- Run network analysis by region and target community
- Use results to develop and prioritize projects for regional ped/bike plans and regional LRTPs/MTPs

B. Background

1. SHRP2 Initiative & PPNH Collaboration

- SHRP2 outreach process and definition of initial 7 shared metrics
- PPNH ongoing collaboration as framework for new measure implementation
- Bicycle safety and connectivity measure desired but not yet defined

2. LTS Development in NH – Plymouth State & Regional Efforts

- LTS Overview
- Data challenges for LTS use in New Hampshire
- NHDOT Research Project and PSU/Getts work
 - Data challenges for LTS use in New Hampshire
 - NH LTS model development – Version 1, 2, 3 models based on data availability

- Version 1 – Speed, traffic direction, number of lanes, AADT
- Version 2 – Speed, traffic direction, number of lanes, AADT, shoulder width
- Version 3 – Speed, traffic direction, number of lanes, AADT, shoulder width, bicycle lane width, parking lane width
- Application to urban/rural contexts Manchester & Lakes Region
- Public involvement – surveys and PPGIS

C. Proposed Research Project (described in narrative summary)

1. Run current PSU model for five MPO/RPC regions
2. Collect regional data and refine model (iterative process) including public input
3. Define shared LTS-based performance metric through PPNH
4. Run network analysis by region and target community
5. Use results to develop and prioritize projects for regional ped/bike plans and regional LRTPs/MTPs

II. Description of Dedicated Staffing/Resources. *Agencies should ensure that adequate funding, staffing and technical resources to successfully complete the pilot are identified and available. This section should fully describe the resources that will be dedicated to the pilot, and demonstrate how the non-Federal match requirement will be met.*

A. Staffing

The project will be undertaken by senior staff from New Hampshire's four Metropolitan Planning Organizations (MPOs); two of the state's five non-urban Regional Planning Commissions; and faculty and students from Plymouth State University. These include Rockingham Planning Commission MPO, Nashua Regional Planning Commission MPO, Southern NH Planning Commission MPO, Strafford MPO, Central NH Regional Planning Commission and the Southwest Regional Planning Commission.

Plymouth State University

Amy Villamagna, Abbott Professor of Environmental Studies
Raegan Young, Research Associate

Nashua Regional Planning Commission (MPO)

Greg Lantos, Principal Transportation Planner
Matt Waitkins, Senior Transportation Planner
Ryan Friedman, Senior GIS Planner

***Each MPO/RPC
edit staff listing
as needed***

Rockingham Planning Commission (MPO)

David Walker, Transportation Program Manager
Scott Bogle, Senior Transportation Planner
Christian Matthews, Transportation GIS Analyst

Southern NH Planning Commission (MPO)

Nate Miller, Deputy Executive Director

Alan Yu, Principal Transportation Planner

Strafford Regional Planning Commission (MPO)

Colin Lentz, Senior Transportation Planner

Rachel Dewey, Data Analyst

Central New Hampshire Planning Commission

Craig Tufts, Principal Planner/GIS Planner

B. Software Tools – Description of Maptionnaire software

C. Budget & Resources

A total of \$XX,XXX is requested from the Federal Highway Administration (FHWA) administration, comprising 80 percent of the total project budget. The required 20 percent non-federal matching funding will be provided through a combination of \$XX,XXX in cash match from the MPOs and regional planning commissions from local dues, \$XX,XXX in in-kind staff time from Plymouth State University representing a share of state funded salary of Professor Villamagna, and \$XX,XXX in in-kind time from volunteers participating in data ground truthing through regional meetings and surveys. These resources are described in greater detail the attached project budget table.

III. Draft Work Plan. *Applicants should provide a draft work plan to inform the selection process, which should explain how the applicant plans to conduct the work. This would include the phases of work, budget, their sequencing, work products, and timing. If contractor assistance is planned to support the effort, that support and estimated level of effort should be included. The budget should indicate the level of funding requested, the amount of the funding match, and any other sources of funding.*

A. Phase I – Regional Data Collection & Plymouth State LTS Model Refinement

- Run current 3-level LTS model for 4 MPO and CNHRPC regions
- Identify portions of network for which only Level I data currently exist
- Develop additional Version 3 data (on-street parking, marked bike lanes, turn lane configuration, prevailing speed, etc) to the extent possible and refine model.
- Data development will be combination of MPO staff work and public input including PPGIS survey and public meetings

Budget: \$XX,XXX TBD

Timeframe: October 2018 – February 2019

B. Phase II – Performance Measure Definition

- Work through PPNH to define preferred LTS-based performance metric(s)
- Review LTS based measures use by other MPOs and state DOTs

Budget: \$XX,XXX TBD

Timeframe: October 2018 – February 2019

D. Phase III – Network Analysis by Region and Target Community

- Refine model to include major trip generators by community (schools, downtowns, employment centers, parks/playgrounds, residential areas)
- Run analysis to calculate connectivity for selected links, routes and areas

Budget: \$XX,XXX TBD

Timeframe: March-April 2019

E. Phase IV – Package Results

- Create network visualizations for each MPO region and selected municipalities to support project development and programming decisions

Budget: \$XX,XXX TBD

Timeframe: May-July 2019

F. Phase IV – Performance Measure Implementation

- Incorporate new performance metric in MPO System Performance Report for October 2019
- Incorporate network analysis in regional bike/ped plan project prioritization
- Selected municipalities incorporate network analysis in project development
- Incorporate LTS measure in project prioritization for next MPO LRTPs/MTP updates

Budget: \$XX,XXX TBD

Timeframe: August-September 2019

G. Phase V – Report Development

- Draft Pilot Project Report

Budget: \$XX,XXX TBD

Timeframe: July-September 2019

H. Phase VI – Peer Sharing

- Participate in virtual peer sharing among pilot project grantees
- Present project at one or more regional conferences: NHPA, NNECAPA, NE Bike/Walk Summit

Budget: \$XX,XXX TBD

Timeframe: October 2019-September 2020

Attach Budget Table